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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/016,002 01/30/98 LAMPERT

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EXAMINER

COLBERT, E

ART UNIT

PAPER NUMBER

2771

DATE MAILED:

07/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/016,002

Applicant

Lampert et al

Examiner

Ella Colbert

Group Art Unit

2771

☒ Responsive to communication(s) filed on Jan 30, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire Three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-22 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-22 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2771

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Behr et al (5,808,566), hereafter Behr.

With respect to claim 1, spatially parcelizing a plurality of data entities into parcels where each parcel of the parcels contains a separate subset of the data entities (**column 10, lines 15-25**), and determining sub-areas with each encompassing some of the geographic features represented by the data entities contained in the parcel (**column 10, lines 39-44**). Behr did not explicitly teach storing a first index identifying each of the data entities contained in the parcel with each of the sub-areas intersected by the geographic feature represented (**column 12, lines 32-38**). Behr did not explicitly teach storing a first index, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to store the first index because it is known in the art that an index can be sorted (alphabetized) without moving the main contents of the data or file. This saves time because the index is smaller and it is possible to maintain multiple indexes to the same data or file.

Art Unit: 2771

With respect to claims 2, the first index being a bitmap (**column 15, lines 1-14**)

With respect to claim 3, each of the sub-areas being a sub-rectangle (**col. 17, lines 38-64 and figure 5**).

With respect to claim 4, this claim is discussed above in claim 1 and rejected for the same reasons as stated above for claim 1.

With respect to claim 5, each of the parcels storing a second index identifying boundaries of each of the sub-areas (**column 21, lines 40-49**).

With respect to claim 6, Behr did not explicitly teach the second index is a kd-tree index (**column 15, lines 19-27**).

With respect to claim 7, Behr did not teach the second index is stored internally of the parcel, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a second index for storing the parcel internally because an index is well known to one of ordinary skill in the art at the time the invention was made to have the second index for storing a parcel because an index is a way of sorting and accessing data or files by creating an alphabetical list of keywords. An index speeds up the retrieval of data from storage.

With respect to claim 8, the data entities represent geographic features encompassing each of the sub-areas that are approximately equal in number to the data entities representing geographic features encompassed by each of the other sub-areas (**column 19, lines 15-33**).

Art Unit: 2771

With respect to claim 9, Behr did not explicitly teach the data entities represent segments of roads in the geographic region, however, Behr did teach the data entities represent segments of streets in the geographic region (**column 1, lines 42-46, column 10, lines 2-9 and lines 17-25**).

With respect to claim 10, determining eight sub-areas (**column 14, lines 19-26**).

With respect to claim 11, identifying a search area in a geographic region (**column 10, lines 61-67 and column 11, lines 1-4**), identifying at least one parcel of data in the navigable map database where the one parcel of data contains data entities representing features encompassed within the first rectangular area within the geographic region where the first rectangular area intersects the search area (**column 11, lines 4-17 and column 15, lines 61-67**), using a first index associated with at least one parcel of data to identify each of the sub-rectangles of the first rectangular area that intersect the search area (**column 15, lines 22-27**), and using the second index associated with at least one parcel of data to identify which of the data entities contained in the parcel intersect each of the sub-rectangles identified by using the first index (**column 21, lines 40-49**). Behr does not explicitly teach an index, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first and a second index because indexes are used to speed up the retrieval of data or files and to access the files or data in a sorted order by creating an alphabetized list of keywords.

With respect to independent claim 12, this claim is rejected on grounds corresponding to the rejections given above for independent claim 11.

Art Unit: 2771

With respect to dependent claim 13, this claim is rejected on grounds corresponding to the rejections given above for dependent claim 9.

With respect to claim 14, this dependent claim is rejected on grounds corresponding to the rejections given above for dependent claim 6. In dependent claim 14, Applicant claims a method which contains steps corresponding to the method of rejected dependent claim 6.

With respect to dependent claim 15, this claim is rejected on grounds corresponding to the rejections given above for dependent claim 2. In dependent claim 15, Applicant claims a method which contains steps corresponding to the method of rejected dependent claim 2.

With respect to claim 16, the data records are spatially parcelized into a plurality of parcels (**column 3, lines 1-10**), each parcel of the parcels comprises a separate portion of the data records where the portion of the data records in each parcel represents geographic features encompassed together in an area of the geographic region and where the area encompasses the geographic features represented by one parcel is separate from the areas encompassing the geographic features represented by the rest of the parcels of a given level and a given type (**column 3, lines 58-67**), a reference to at least one of the groupings of the data records in the parcel (**column 4, lines 20-24**), and the groupings organize the data records in the parcel spatially (**column 4, lines 29-34**).

Behr did not teach an index table of a first type with each associated with a separate one of the parcels or the index table of the first type comprising a separate reference to each data record in the parcel to which the index table is associated, but it would have been obvious to one

Art Unit: 2771

of ordinary skill in the art at the time the invention was made to have an index table of the first type associated with one of the parcels and to comprise a separate reference to the data record in the parcel which the index table is associated because it is assumed the first type is a bitmap index and a bitmap is well known in the art as being a graphics file with each tiny square making up the image (in this case the image would be the parcels) in the index table which is used for sorting the files in an alphabetized order. It would save time by the index table of the first type comprising a separate reference to each data record because the index would be smaller and easier to maintain and the index can be sorted without moving the main contents of the data.

With respect to claim 17, the index tables of the second type comprises: a spatial reference to each of the separate sub-areas formed of the area that encompasses the geographic features represented by the data records in one of the parcels (**column 19, lines 15-33**). Behr did not teach an index table of a second type which are associated with a separate one of the parcels, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an index table of the second type associated with a separate parcel because it is assumed the second type of index is a kd-tree index and it is well known in the art that a kd-tree index is used as a binary tree for performing spatial searches or a binary search using a data entity identifier. In a tree type of index the data at certain nodes represent divisions of the structure that make it easier to perform a spatial search.

With respect claim 18, data entities which represents a physical feature in the geographic region where the data entities are separated into a plurality of parcels which contains a subset of

Art Unit: 2771

the data entities where the subset of data entities in each parcel represent geographic features in the geographic region encompassed within a separate one of the rectangles which together encompass all of the data entities in all of the parcels in the entire geographic region (**column 5, lines 45-53 and lines 59-67, column 6, lines 1-19, and column 19, lines 15-33**), each of the parcels is associated with an index, the index associated with each parcel relates to each of the data entities in the subset of the data entities associated with the parcel with at least one grouping of the groupings of the subset of the data entities associated with the parcel (**column 12, lines 21-29 and column 14, lines 35-41**).

With respect to claim 19, the groupings of the subsets are spatially organized (**column 14, lines 46-59**).

With respect to claim 20, the groupings of the data entities within the parcel include approximately a similar number of data entities as each of the other groupings in the parcel (**column 17, lines 65-67 and column 18, lines 1-7**).

With respect to claim 21, each of the groupings of the data entities in each of the parcels includes data records encompassed within a separate sub-rectangular area (**column 19, lines 34-67 and column 20, lines 1-13**).

With respect to independent claim 22, this claim is rejected on grounds corresponding to the rejections given above for independent claim 16. In independent claim 16, Applicant claims a map database for use in a navigation system which contains steps corresponding to the computer usable medium of rejected independent claim 16.

Art Unit: 2771

Conclusion

3. The prior art made of record and not relied upon is considered relevant to applicant's disclosure.

Behr et al (5,543,789) taught a computerized database navigation system

McGrath et al (5,893,113) taught updating a geographic database.

Cherveney et al (6,047,234) taught a geographic database using feedback.

Rode (5,565,874) taught a multi-level vehicle highway navigation system.

Long et al (6,078,864) taught a navigation system with a database of roads.

Ahrens et al (5,951,620) taught a method for distributing updated geographical data and navigation application programs contained on storage media used in vehicle navigation systems.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is (703)308-7064. The examiner can normally be reached Monday through Thursday from 6:30 a.m. to 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu, can be reached on (703)305-4393.

Any response to this action should be mailed to:

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Washington, D.C. 20231

Art Unit: 2771

Or faxed to:

(703)308-9051, (for formal communications intended for entry).

Or:

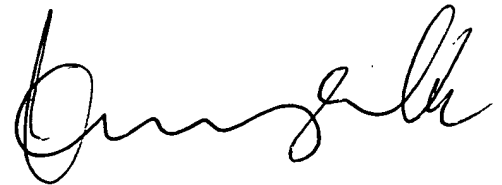
(703)308-5403 (for informal or draft communications, please label

“PROPOSED” or “DRAFT”).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, Virginia., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703)308-9600.

E.C.
June 30, 2000



KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700